



Smartphone Purchase Journey 2018

US Findings



P&E Marketing Analytics / October 2018

go/us-purchase

LINKS: all 11 market reports, more team research at go/android-insights

Questions? email Sammy Shan @, Emma Hong@



EXHIBIT 2903.R-001

GOOG-PLAY-010847483

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Google 2

Survey Methodology

- Online quantitative survey (25 minute length of interview) in the US fielded August 24 through September 10 in 2018
- Total Online Survey Sample: n=2,015; Sample sizes can be found here

Target Audience

- Qualification: Must have purchased a smartphone in the past 3 months for personal use (non-work related). All smartphone brand
 purchasers were included, regardless of their interest in Android.
- Respondent Age Range: Adults 18+

Tiering Definition

 Tiering definitions can be found here: (go/AndroidDeviceTiers). Android tiers are based on their hardware performance (RAM) and software experience (operating system version). iPhone tiers are mapped by launch date (most recent models are premium). Tiering process developed in collaboration between Google and GfK.

Statistical Significance

Up/Down arrows indicate significant difference from average of total US respondents
 @ 90% confidence interval

Color Coding



Sample Size

Sample groups with base sizes below 100 respondents are marked with *, interpret results with caution.

Differences from 2017 Study

- The 2017 Android Path to Purchase study had two differences in sample profile from this 2018 study:
 - The restriction of having to consider an Android smartphone was removed to get a better sense of total Apple purchasers.
 - This 2018 study focused on smartphones for personal use, while 2017 allowed work smartphones as an eligible device.

Link to the 2018 Questionnaire doc

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Field Considerations:

- Samsung had released the S9 series at the time of fielding.
- iPhone XS, XS Max, and XR announced after field had closed.
- Pixel 3 and 3 XL announced after field had closed.





What did we learn?

Purchasing patterns

1 in 5 U.S. smartphone buyers in the past year were <u>first-time smartphone</u> <u>purchasers</u>, and they favored Android.

There is more switching behavior between Android OEMs than churn to iOS.

Influence of apps

Users find apps installed by their OS to be more convenient than apps from carrier or OEM (e.g. Samsung, LG). However, the majority do not find <u>pre-installed apps</u> to be a major pain point.

Voice assistant has a more positive influence on purchase for iOS purchasers and is more important to Android to iOS switchers. This is likely because iOS purchasers prioritize having a high-tech, advanced device more so than Android purchasers.

OS switchers

Android to iOS switchers were influenced more by OEM websites and TV ads, while iOS to Android switchers were heavily influenced by <u>retail associates</u>.

Android to iOS switchers are drawn to more feature and brand attributes than iOS to Android switchers. Main drivers for iOS to Android switchers are price and battery life.





What are smartphone shoppers buying?





1 in 5 shoppers in the sample were first-time smartphone purchasers, and the majority chose Android for their first smartphone.





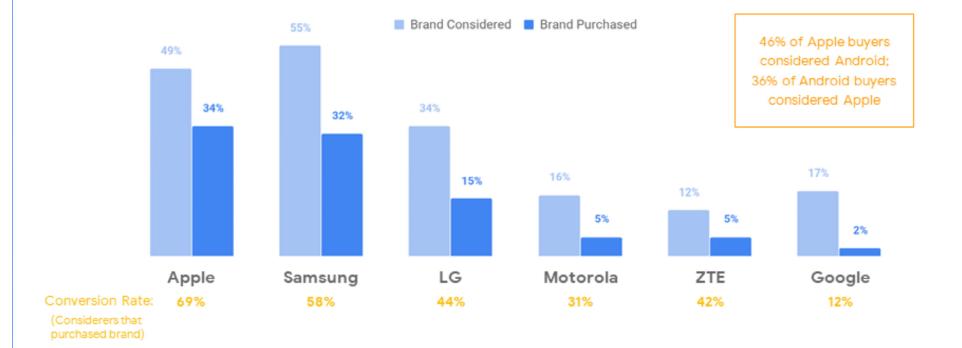
S8.1 Of all the brands you considered, which brand of smartphone did you actually purchase? Base: U.S. Experienced Smartphone Purchasers (n=965, 498); First time buyers (n=429) 4. What was the brand of your previous smartphone? A3. Was this the first time you had ever purchased a smartphone?



Table 28, 68



Apple leads in converting shoppers into purchasers.



sa_u. You mentioned that you purchased a smartphone in the past 3 months. Please list ALL brand(s) of smartphones you considered purchasing, se sure to include the brand of smartphone that you actually purchases.

Base: U.S. Smartphone Purchasers (n=2015)



Considered One Brand: 53.00%
 Considered Two Brands: 16.53%
 Considered Three Brands: 12.31%
 Considered Four Brands: 6.70%
 Considered Five Brands: 4.12%
 Considered Six or Seven: 4.02%

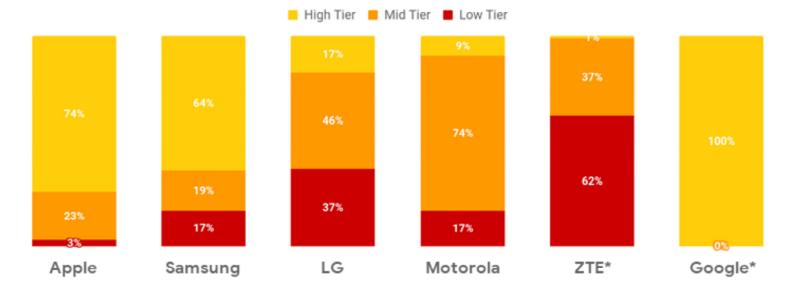
Considered 8+: 3.33%

EXHIBIT 2903.R-007



1 in 4 Apple purchasers in the past 3 months bought an iPhone 6 device or older.

Tier Breakdown of Devices Purchased by OEM



SB.1 Of all the brands you considered, which brand of smartphone did you actually purchase?

A3. Was this the first time you had ever purchased a smartphone?

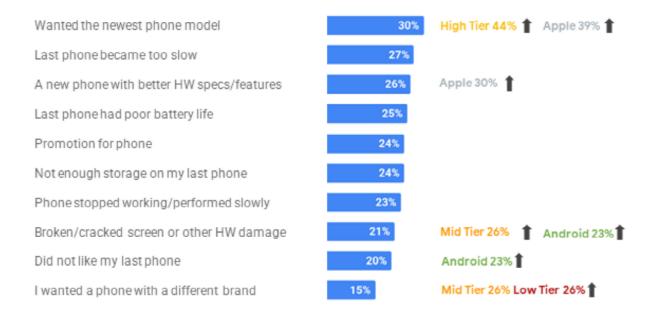
Base: U.S. Smartphone Purchasers (n=705), U.S. Smartphone Samsung Purchasers (n=637), U.S. Smartphone LG Purchasers (n=319), U.S. Smartphone Motorola Purchasers (n=114), U.S. Smartphone ZTE Purchasers (n=85 U.S. Smartphone Pixel Purchasers (n=36)*, *Small base, interpret results with caution





Wanting the newest model was the top purchase trigger, particularly for Apple and High Tier smartphone buyers.

Top 10 Triggers for Smartphone Purchase



A1. The first few questions are focused on when you first decided you needed a new smartphone. Which of the following best describes the reason why you initially decided to purchase your smartphone of the following best describes the reason why you initially decided to purchase your smartphone of the following best describes the reason why you initially decided to purchase your smartphone of the following best describes the reason why you initially decided to purchase your smartphone of the following best describes the reason why you initially decided to purchase your smartphone of the following best describes the reason why you initially decided to purchase your smartphone.



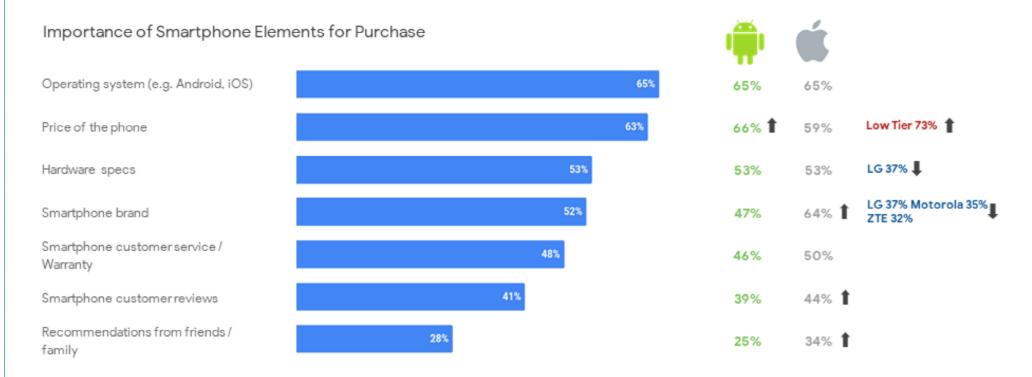


What did the shoppers want?





OS is equally important to Android and iOS purchasers, while price is more important to Android purchasers.



A13. Below is a list of smartphone elements that may or may not be important to you. Using the scale shown below, please indicate how important or unimportant each element was to you when deciding which phone to purchase. Base: Total U.S. Smartphone Purchasers (n=705) 11 Indicates significant difference from U.S. Total at a 90% Confidence Level



Having a phone with the most advanced features was significantly more important to iOS buyers and switchers to iOS.



Which of the following were important to you when shopping for your new smartphone? % considered "very important"

	ı m ı	É	
Great value - I wanted the best value for my money	63% 🕇	56%	51% of Android -> iOS switchers said a high
High tech - I wanted a phone with the most advanced features	37%	49% 1	tech was very important to them vs. 33% iOS ->
Style - I wanted a phone that reflects my personal style	31%	36% 🕇	Android switchers. 44% of Samsung buyers
Belonging - I wanted a phone that makes me feel I'm a part of a community	21%	30% 🕇	said this was very important vs. 31% of
Status - I wanted a phone that helps me stand out and reflect my status	22%	31% 🕇	Google buyers.
Being different - I wanted a phone different from what everyone else has	21%	26% 🕇	

14. Please indicate the extent to which the following features were important to you when shopping for your new smartphone. Using the scale below, please rate each of the following items in terms of importance to you personally lase: U.S. Smartphone Purchasers (n=2015), U.S. Smartphone iPhone Purchasers (n=705), U.S. Smartphone Samsung Purchasers (n=637), U.S. Smartphone LG Purchasers (n=319), U.S. Smartphone Pixel Purchasers (n=36)*, *Small base, interpret results with caution | | Indicates significant difference from U.S. Total at a 90% Confidence Level

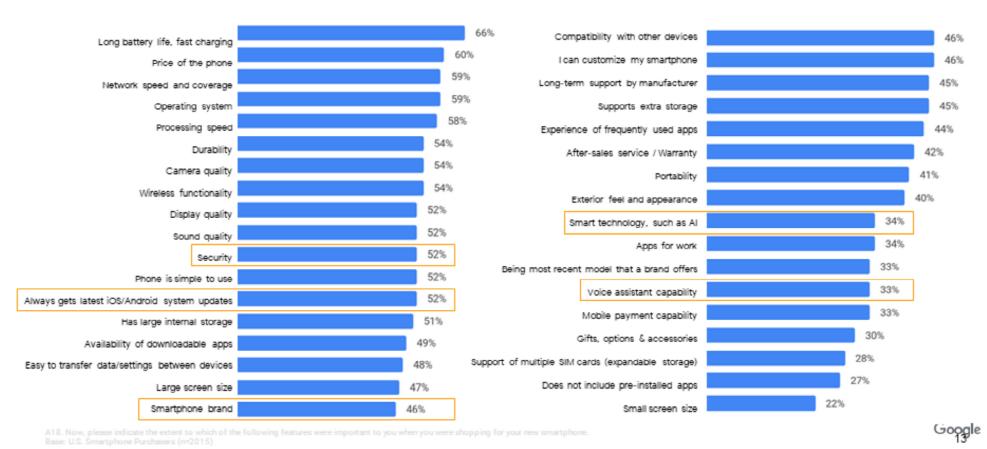


■ Table 142

Feature Importance for Smartphone Purchase

Top box out of 5 (average top box importance rating is 45%)



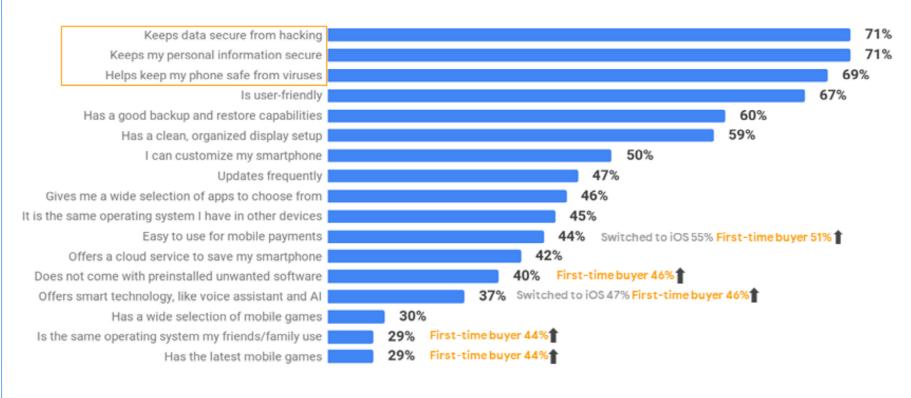


Tables 152-191



Drill Down: Importance of OS Features

Among smartphone purchasers who said OS was important to them



ATBe. Using the scale shown below, please indicate how important or unimportant each operating system (US) feature is to you. Base: U.S. Smartphone Purchasers T2B Importance in OS (n=1763)

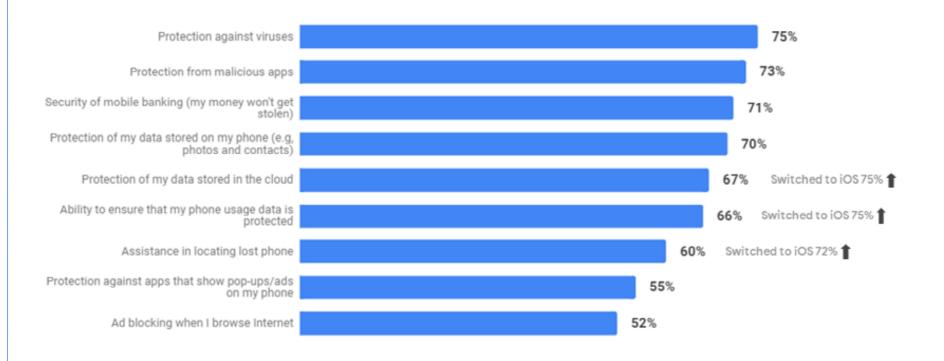


Drill Down: Importance of Security Features

Among smartphone purchasers who said security was important to them







A18d. Using the scale shown below, please indicate how important or unimportant each aspect of smartphone security is to you Base: U.S. Smartphone Purchasers T2B Importance in Security (n=1720)

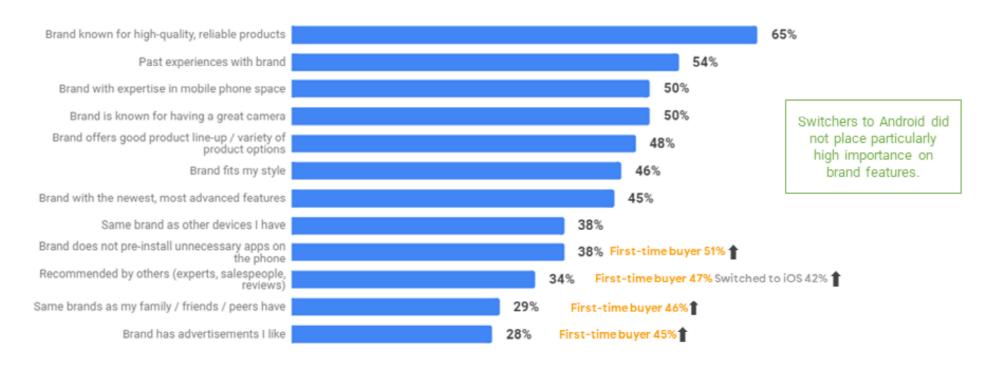


Drill Down: Importance of Brand Features

Among smartphone purchasers who said brand was important to them







18a. Please indicate the extent to which of the following "smartphone brand" factors did you consider important when purchasing your smartphone? ase: U.S. Smartphone Purchasers T2B Importance in Brand (n=1590)



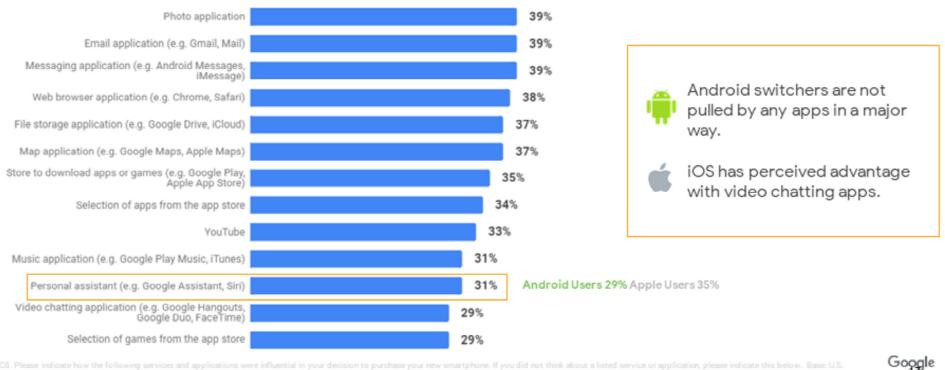
- Table 193
- Why First-Time buyers seem to overindex on caring about pre-installed apps --
- Could be based on usage patterns 45% agreed completely that they "primarily use phone to make phone calls" (vs. 33% total) and 41% agreed completely that they "just want to use smartphone to make/receive calls, browse internet, check email, don't care about other features" (vs. 27% total). Still, they also found having up-to-date technology very important too.

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Voice assistant had a more positive purchase influence on Apple purchasers than on Android purchasers.



Positive Influence of Apps on Device Purchase Decision

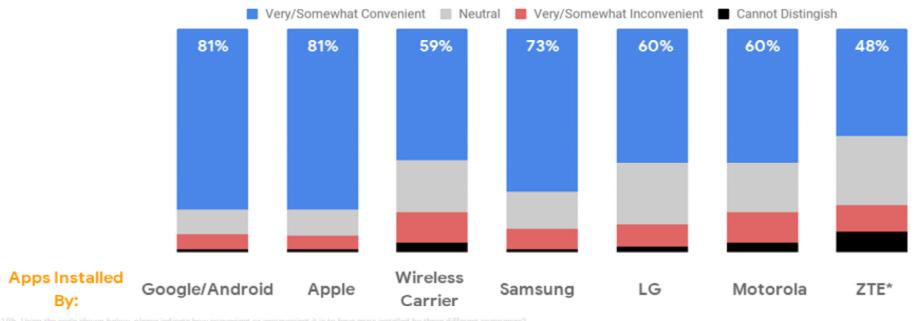






Apps pre-installed by Google/Apple are considered more convenient than other OEM or carrier apps, but the majority find pre-installed apps of all kinds convenient.

How convenient is it to have these pre-installed apps? (Among Purchasers of OS/Carrier/OEM Brand)



ase: U.S. Smartphone Purchasers (n=2015), Samsung (n=637), LG (n=319), Motorola (n=114), ZTE (n=85)⁶, *Small base, interpret results with caution



• Table 225,226, 265, 237, 235, 236, 244



How did they shop for their smartphone?





Key facts about the smartphone purchase journey

63%

Purchased in-store

55%

Completed process within 2 weeks (18% same day) 50%

Paid in full for phone without signing contract 28%

Received trade-in credit for old phone

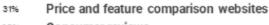




Most important shopping activities include using comparison websites and online reviews.

Relative importance of shopping activities (indexed) bold = online activity





35% Consumer reviews

24% Demo devices in stores

29% A salesperson

33% Websites of mobile carriers

17% Industry expert/tech websites

28% Websites of manufacturers

32% Websites of retailers

22% Advice from knowledgeable co-workers, friends

33% Search engine

29% Advice from family

14% Promotional materials from manufacturers

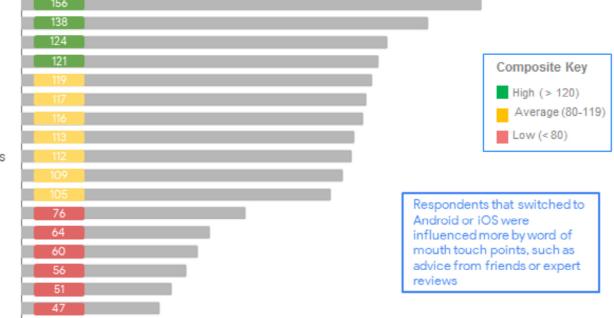
19% Opinions in social media

24% TV ads

12% Published materials such as trade magazines

14% Posters in the store

14% Print ads



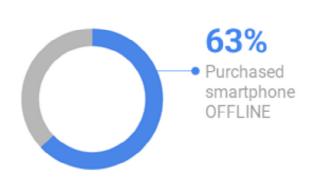
24. Which one most influenced your decision to purchase your smartphone, and which one had the least influence.
20x/420b. When you were shooning for a smartphone what police/offline sources of information do / did you typically use?—Raser U.S. Smartphone Purchasers (m:201)

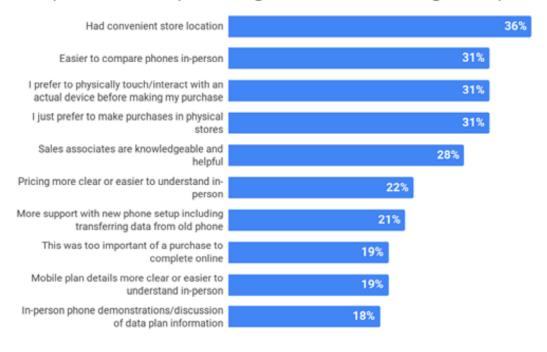




Most purchases were completed offline as shoppers prefer the convenience of in-store interactions.







A26/A27. At which of the following retailers did you shop for/did you actually purchase your smartphone?

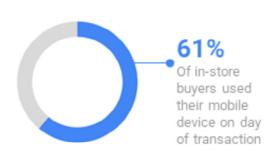
B4. Which of the following, if anything, were the reason(s) you decided to purchase your smartphone in a physical store rather than online? Base: U.S. Smartphone Offline Purchasers (n=1317)





iOS to Android switchers are more likely to look up how to use products online when shopping in-store.

Top 10 reasons for using mobile device in store



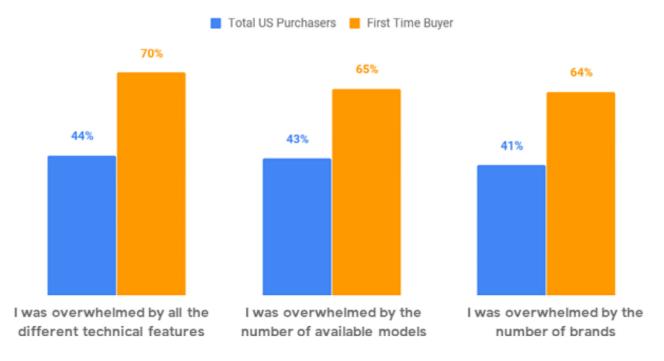


B3. Which of the following, if anything, did you do online on your mobile device while you were in a physical store on the day that you purchased your smartphone: Base: U.S. Smartphone Purchasers (n=2015)





Many shoppers found the amount of options related to their smartphone purchase overwhelming, especially first time smartphone buyers.



B12. Thinking back on the process you went through to shop for and ultimately purchase your smartphone, how much do you agree or disagree with the following statements? Base: U.S. Smartphone Purchasers (n=2015), First time buyers (n=429)





OS Switcher Profile



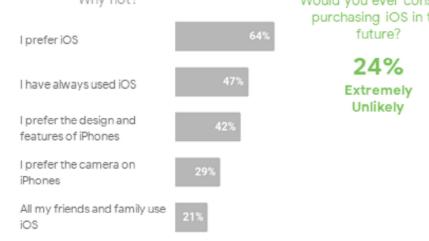


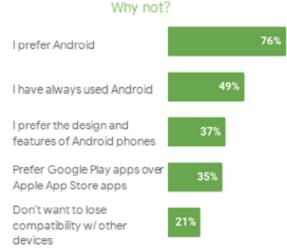
A quarter of Android purchasers are closed off to ever considering iOS due to preference of OS and Google Play.

Top BARRIERS to considering another OS



25% Extremely Unlikely





C5b/c. How likely are you to purchase a smartphone that runs on an Android operating system in the future?/ Please select why you would never consider purchasing a smartphone that runs on an Android operating system in the future. Base: U.S. Smartphone iPhone Purchasers (n=705), U.S. Smartphone Purchasers Extremely Unlikely to Buy Android (n=201) C5e/g. How likely are you to purchase a smartphone that runs on the future. Base: U.S. Smartphone Android Purchasers (n=1310,) U.S. Smartphone and the future of the future. Base: U.S. Smartphone Android Purchasers (n=1310,) U.S. Smartphone and the future of the future

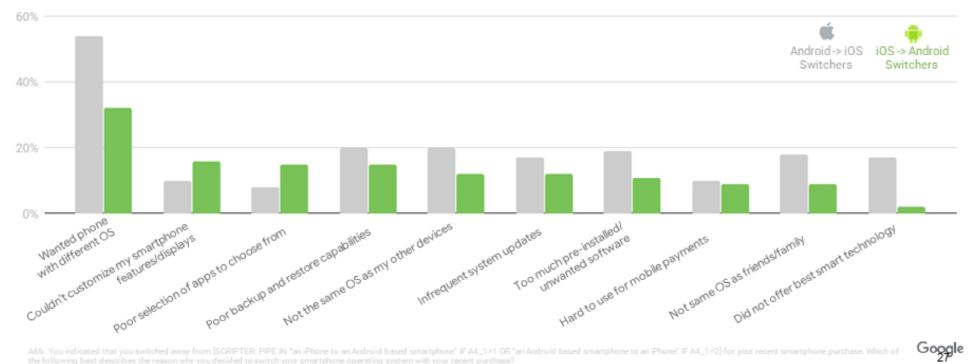
Google

Android to iOS switchers believe iOS offers less unwanted software and smarter technology.

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Tables 105-106

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While the number of OS switchers is small, those that switched to iOS tend to be younger and live in urban areas.



iPhone switchers threaten Android in all device tier groups. 50% of switchers bought iPhone 8/8+/X; 40% purchased iPhone 6/7 series, and 10% purchased SE/5 series.

Purchased High-Tier phone
Millennials
Knew exactly which brand they wanted
Urban living
Signed fixed contract
Switched mobile carriers

Android -> iOS Switchers	iOS -> Android Switchers*	US Shopper Average
69% 1	65% 🕇	52%
68% 🛊	53%	50%
61%	44% ↓	58%
53% 🛊	33%	39%
39%	54% 1	36%
37% 1	41% 1	28%

Base: U.S. Smartphone Purchasers (m-2015), iPhone to Android (m-67)*, Android to iPhone (m-133 I) Indicates significant difference from U.S. Total at a 90% Confidence Level *Small base, interpret results with caution



Switchers to iOS placed added emphasis on processing speed and camera quality. Switchers to Android more focused on battery and price.

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OS Switchers: Feature Importance Summary (% Rated 'Very Important' on 5 pt Scale)

	Android -> iOS		
	Switchers	iOS -> Android Switchers*	US Shopper Average
Processing speed	68%	55%	58%
Camera quality	67%	54% ↑	54%
Long battery life	66% 🛊	75%	66%
Operating system	61% 🛊	51%	59%
Display quality	60%	48%	52 %
Sound quality	60%	46%	52 %
Gets latest system updates	59%	48% ■	52 %
Security	55% 🛊	40%	52 %
Exterior feel/appearance	51%	40%	40%
Portability (slimness & weight)	51%	43% 🛖	41%
Price	51%	70%	60%
Good apps for work	47%	29%	34%

s. Smartphone Purchasers (n=2015), iPhone to Android (n=67)*, Android to iPhone (n=133)
es significant difference from U.S. Total at a 90% Confidence Level



Android -> iOS switchers were influenced much more by OEM websites and TV ads, while iOS -> Android switchers were heavily influenced by retail associates.



OS Switchers: Important Shopping Activities

Sales Associate/Demo
TV Ads
OEM Websites
Family Advice
Social Media Opinions

Android -> iOS Switchers	iOS -> Android Switchers*	US Shopper Average
48%↓	74% 🛊	55%
43%1	33%	29%
40%1	27%	28%
32%	20%	24%
28% ↑	21%	19%

The average iOS to Android switcher took 1-2 weeks to purchase, while the average Android to iOS switcher took 2 - 4 weeks to complete the purchase process.

Base: U.S. Smartphone Purchasers (n=2015), iPhone to Android (n=67)*; Android to iPhone (n=133)
| Indicates significant difference from U.S. Total at a 90% Confidence Level
*Small base, interpret results with caution





First-time smartphone buyers



Who are first-time smartphone purchasers?



Skew younger & male

- 71% male
- 61% millennial (18-35 y/o) vs. 50% total smartphone buyers

Value voice assistant and phones without pre-installed apps

 First-time buyers were significantly more likely than overall smartphone shoppers to look for voice assistant capabilities (41%) and phones free of pre-installed apps (39%)

More influenced by peers & family

- 41% saw recommendations from family and friends as highly important to purchase (vs. 28% of all shoppers).
- More likely to rank having the same brand and OS as friends and family as important

More online shopping activity & purchasing

46% of first-time purchasers purchased online (vs 37% all shoppers), and 80% shopped around online.

Google



OEM Scorecard



OEM Scorecard





	Apple	Samsung	LG	Motorola	ZTE*
Consideration	49%	55%	34%	16%	12%
Purchase Conversion	69%	58%	44%	31%	42%
Differentiating Features (significantly higher/lower than total at a 90% confidence interval)	Brand (54%), Camera Quality (55%), Compatibility with other devices (49%), Voice Assistant (37%)	Brand (51%), Display (59%), Processing Speed (65%), Camera Quality (61%), Internal Storage (58%)	Expandable Storage (52%) Long Term Support By OEM (36%), Latest OS Updates (44%)	Expandable Storage (54%) Compatibility With Other Devices (36%), Latest OS Updates (42%)	Price (71%) Brand (46%)
Brand Perceptions Innovative		•		•	•
Keeps data safe and secure			_	•	
Designed for someone like me			•	•	
Great value for price				•	
GREEN features - over-index vs. total	= Above	= Average = :	= Below average		

Base: U.S. Smartphone Samsung Purchasers (n=637), U.S. Smartphone LG Purchasers (n=319), U.S. Smartphone Motorola Purchasers (n=114), U.S. Smartphone ZTE Purchasers (n=85)*

- Differentiating Features Significantly higher/lower than total at a 90% confidence interval
- Brand Perceptions This chart takes C9 perception data, indexes it to total Android perceptions, then compares OEM users against the total Android perceptions. Indexes of 111+ are colored green, yellow is 110-96, and red is 95 or lower.

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RED features - under-index vs. total



Appendix



Most shoppers went into the buying process having some sense of what they wanted, though Android buyers are less likely to be decided on specific Brand and Model.



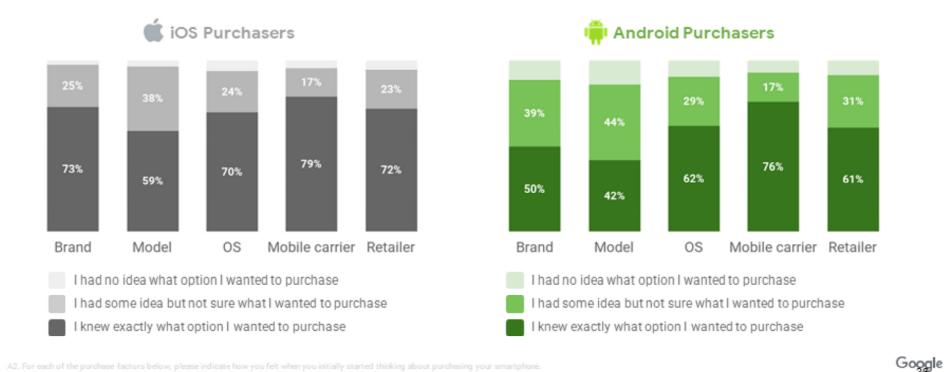


Table 62-66



While most shoppers cited value as a top priority, having advanced features was also highly important.

(% top 2 box out of 5)

	US Total	Apple	Samsung	LG	Motorola	ZTE*	Google*
Great value - I wanted the best value for my money	89%	87% 🌡	90%	91%	93%	93%	79%
High tech - I wanted a phone with the most advanced features	77%	82% 🛊	82% 🛊	67% ↓	67% ↓	73%	73%
Style - I wanted a phone that reflects my personal style	62%	67% 🕇	65%	52% ↓	52% ↓	52% ↓	71%
Belonging - I wanted a phone that makes me feel I'm a part of a community	45%	54% 🕇	49% 1	30% ↓	31% ↓	33%	41%
Status - I wanted a phone that helps me stand out and reflect my status	45%	53% 🕇	47%	34% ↓	36% ↓	34%	41%
Being different - I wanted a phone different from what everyone else has	44%	51% 1	46%	31% ↓	36%	36%	53%

14. Please indicate the extent to which the following features were important to you when shopping for your new smartphone. Using the scale below, please rate each of the following items in terms of importance to you personally lase: U.S. Smartphone Purchasers (n=2015), U.S. Smartphone iPhone Purchasers (n=705), U.S. Smartphone Samsung Purchasers (n=637), U.S. Smartphone LG Purchasers (n=319), U.S. Smartphone Pixel Purchasers (n=36)*, *Small base, interpret results with caution | | Indicates significant difference from U.S. Total at a 90% Confidence Level

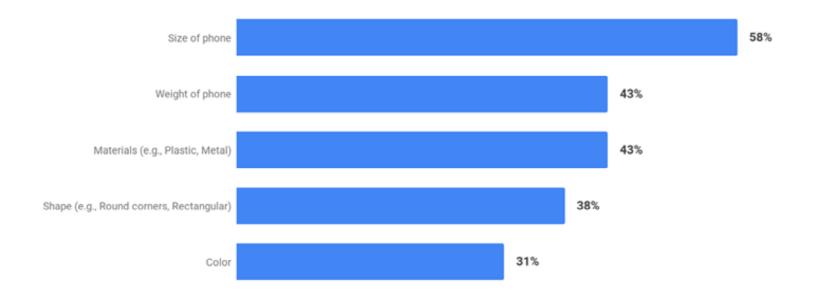




Drill Down: Exterior/Appearance Feature Importance

(top box out of 5)

(Total Smartphone Purchasers)



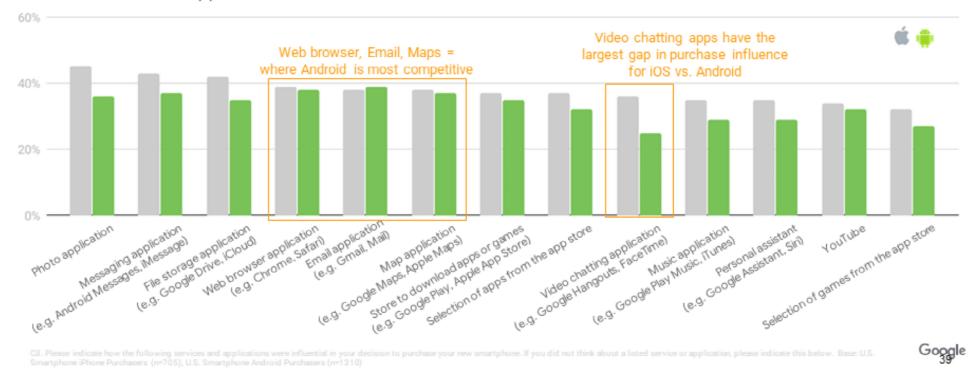
A18b. Please indicate the extent to which of the following "Exterior feel and appearance (overall style, color, material, finish, etc.)" factors regarding your smartphone did you consider important when purchasing one? Base: U. Smartphone Purchasers T2B Importance in Appearance (n=1524)





iOS apps tend to be more influential to the purchase decision than Android apps are.





iOS Switchers feel more positive about iOS apps than Android Switchers



Positive Influence of Apps on Device Purchase Decision (top box out of 5)

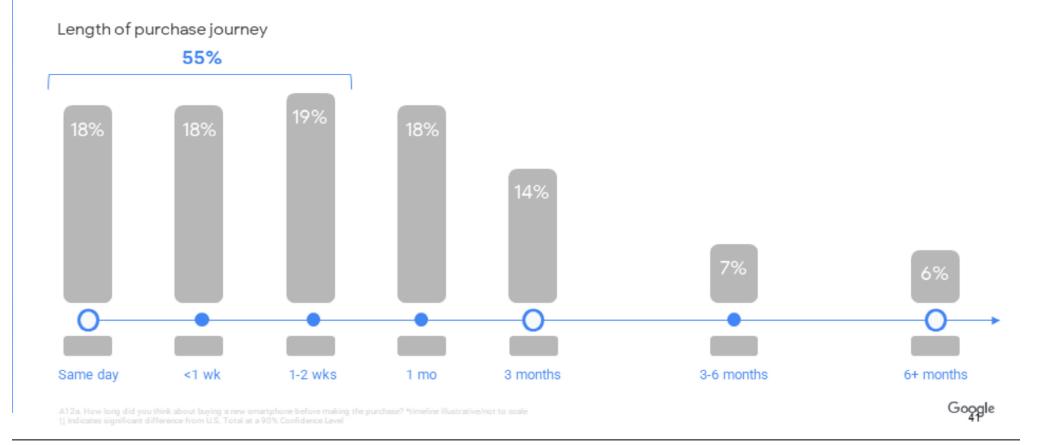
	Andreid Strikelings	i os suitaban
	Android Switchers *	iOS Switchers
Photo application	34%	42%
Messaging application (e.g. Android Messages, iMessage)	33%	50%
File storage application (e.g. Google Drive, iCloud)	38%	45%
Web browser application (e.g. Chrome, Safari)	31%	35%
Email application (e.g. Gmail, Mail)	31%	46%
Map application (e.g. Google Maps, Apple Maps)	35%	36%
Store to download apps or games (e.g. Google Play, Apple App Store)	27%	42%
Selection of apps from the app store	29%	41%
Video chatting application (e.g. Google Hangouts, Google Duo, FaceTime)	20%	38%
Music application (e.g. Google Play Music, iTunes)	24%	28%
Personal assistant (e.g. Google Assistant, Siri)	27%	43%
YouTube	29%	35%
Selection of games from the app store	21%	38%

CB. Please indicate how the following services and applications were influential in your decision to purchase your new smartphone. If you did not think about a listed service or application, please indicate this below Base: U.S. Switchers to Android (n=67*), U.S. Switchers to iOS (n=133); *Small base, interpret results with caution





Over half of purchasers completed the shopping process within two weeks.



Brand Perceptions by OEM purchasers

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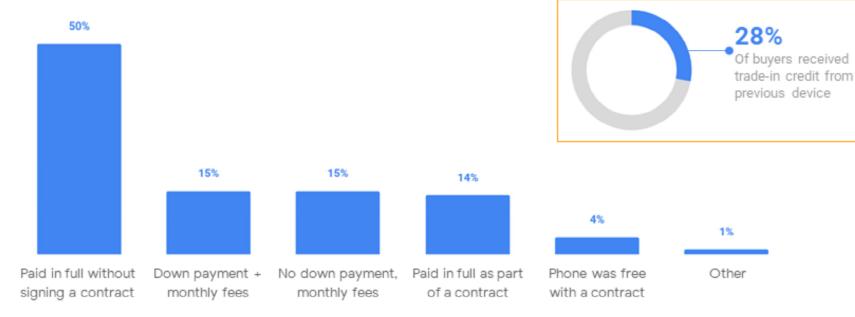
	Samsung	LG	Motorola	ZTE*
Great value for price	68%	68%	68%	64%
Designed for someone like me	71%	64%	67%	45%
Compatible with other devices	71%	56%	57%	52%
Easy to use	68%	59%	60%	49%
Highly customizable	64%	54%	54%	33%
Easy to transfer data/apps	63%	52%	41%	45%
Has the best camera quality	62%	47%	41%	31%
Fast processing	62%	51%	38%	33%
Keeps my data safe and secure	61%	51%	43%	35%
Easy to fix if errors occur	58%	52%	50%	31%
Innovative	61%	43%	44%	31%
Good tech support	60%	45%	47%	23%
Does not freeze up	57%	50%	37%	37%
Most advanced OS	61%	42%	39%	33%
Good platform for dealing with security threats	58%	45%	40%	31%
Provides user privacy	56%	46%	37%	35%
Is a popular brand	55%	41%	39%	29%
Without unwanted pre-installed software	50%	39%	30%	32%
Offers the best games	50%	39%	32%	29%

C9. Please indicate, using the grid shown below, which smartphone brand is best represented by the following factors.
Base: U.S. Smartphone Samsung Purchasers (n=637), U.S. Smartphone LG Purchasers (n=319), U.S. Smartphone Motorola Purchasers (n=114), U.S. Smartphone ZTE Purchasers (n=85)



Half of US smartphone purchasers bought the device by paying in full without signing a contract.

How did you pay for your new smartphone?



36. Which of the following best describes how you paid for your new smartphone? Base: U.S. Smartphone Purchasers (n=2015)



Table 451, 454